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# SAVE FARM GRAIN BY

# Fumigation!

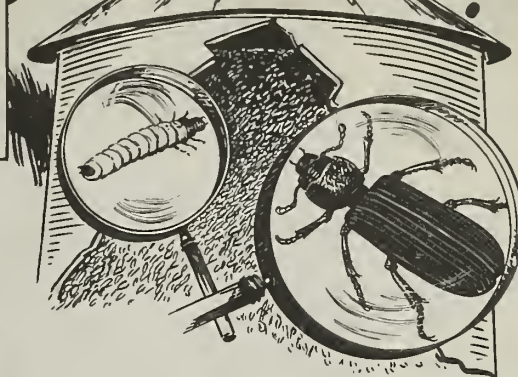
## FACT SHEET

U.S. DEPARTMENT OF AGRICULTURE

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The smallest, most quiet, and most determined thieves that enter your grain bins are INSECTS.

Insects living in farm grain bins eat or destroy 5 percent or more of our Nation's stored grains and cereal products every year. They cause an annual loss estimated at 300 million bushels of grain, worth well over \$600,000,000 at today's prices. That terrific loss is being carried principally by you farmers.

You don't need to share in that loss. Instead, you have an immediate opportunity to make some easy money at home by preventing insect damage in your stored grain. A relatively small expenditure of time and money will bring dollar rewards.

Insects damaging your stored grain can be killed, by you.

The way to do it is through FUMIGATION.

### Step No. 1 -- Investigate

Most farm-stored grain is now in bins. It will stay there until sold or used. Wherever and whenever there is mild weather, insects are busy. This is particularly true if the grain has high moisture content. Or if it is not very clean, Or if the bin was not cleaned thoroughly before putting the grain in it.

Step No. 1, therefore, is for you to look into your bin conditions carefully. Look for warm spots where insects may be breeding. Look for webbed or caked areas. Look for small worms, beetles, and moths and for kernels that seem to be "chewed" or have small holes in them.

If insects are working on your stored grain, you'll want to do something about them on the first warm day.

The insects most injurious to grain in storage are the Angoumois grain moth, the Indian meal moth, the rice weevil, the lesser grain borer, the common cadelle, and the several "bran bugs." Chances are you may find one or several of them at work in your bins.

### Step No. 2 -- Fumigate

One of the best fumigants for killing insects in grain bins is a mixture of 3 parts by volume of ethylene dichloride and 1 part of carbon tetrachloride. You will find this for sale ready-mixed under some trade name. (Home mixtures should not be attempted.) This fumigant will not hurt your grain for use as food, feed, or seed.

CFCM-1

*(only one of the series)*

This fumigant is a liquid. It is sprayed or sprinkled over the surface of the grain in the bin. It quickly evaporates and the heavy vapor rapidly sinks down through the grain, killing insects as it goes.

For best results, a bin must be tight. Otherwise the gas will escape through the cracks and more fumigant must be used to make up for the loss. Tack laths or strips of heavy paper over cracks. (It is impractical to fumigate corn in a slatted crib unless the crib is completely lined with building or roofing paper.) The fumigation should be done on a still day or the wind will blow the gas away before it does all its work.

The surface of the grain should be level and at least 6 inches below the top of the side walls. Apply fumigant evenly. Mild weather is the best time, with grain temperatures of about 65° to 75° F.

An inexpensive bucket sprayer can be used to spray the liquid uniformly over the surface of the grain without your having to enter the bin. If you use a common sprinkling can, you should apply the fumigant and leave the bin as quickly as possible to avoid breathing the toxic fumes. Six gallons of the mixture for each 1,000 bushels of grain is the recommended dosage for tight, well-built bins. For shallow bins of large surface area or for treating grain sorghums, the dosage should be increased to 8 gallons for each 1,000 bushels.

Warning: Don't inhale the fumes. Extreme care must be used to keep from breathing the dangerous vapors. The safest thing is to wear a gas mask when handling or applying the fumigant. Also, don't spill the mixture on your clothing or hands.

#### A Year-Round Program

- o Thoroughly clean your empty bins before refilling them with new grain.
- o Clean up outside your bins, also.
- o Don't keep bran, shorts, and other milled feed or empty feed bags near your stored grains. Often they contain insects brought in from the mill.
- o Before refilling your empty storage bins, spray the floors and inside walls with an oil solution or water suspension containing 5 percent or less of DDT.
- o Have your grain as dry as possible when you store it.
- o Have it as free as possible from broken kernels and dirt.
- o Build bins and cribs tight, to make fumigation easier.
- o Stored grain should be inspected at least once a month. If evidence of insect damage shows up, fumigate as soon as possible.

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